

THE SCIENTIFICITY OF HOMŒOPATHY*

George Dimitriadis

BSc.(UNSW), DHom.(Syd), DHomMCCH(Eng), MBöAG(Ger), LiRF(HISyd)

I have used the term *scientificity* to describe the scientific nature of Homœopathy. My aim in this short discourse is to impress upon you this scientificity in order that you will be better able to defend Homœopathy as most scientific against even the strongest attacks.

In my own experience, attacks on Homœopathy have come from those considering themselves scientific and yet who are committed to opinion and opposition without first observing the action of Homœopathy. These same people arrogate themselves to the position of scrutineer on such scientific matters, without any serious attempt to observe the results of controlled experiments or to falsify the claims of homœopaths, simply dismissing them as quickly as they were brought to their attention. Such individuals can only be regarded as pseudo-scientific parasites, since they postulate without first gathering their data and blindly follow in the opinions of their confederates. It is not difficult to see that only a few scientists are more than followers of routine (pre-determined, accepted) methods and thoughts, and that only few are the inspiration, the backbone of true objective inquisition and logical reflection who explore beyond the 'norm', yet without losing sight of the very process of real science, which is the topic of this paper. We must welcome critical analyses but strongly reject any opinions passed in the wake of ignorance.

It is imperative that we first look at the basic aspects of science in general and compare these with the methods employed in Homœopathy before we can draw any conclusions as to its' scientificity.

There are four fundamental conditions which must be met in the practice of science:

1. Observability

Science requires the collection of observable phenomena, either in the uncontrolled environment of a case study situation, or under more or less strictly controlled experimental conditions. These observations must be accurately and objectively recorded without interpretation, and they form the *raw data*

Observation then forms the first condition of science. By observation, I mean anything discernible to any of the senses (aided or unaided). In reality therefore, science has empiricism at its base. Without empirical data, the hypotheses and theories could not have been proposed. All these theories etc., have been born out of direct or indirect observation, not out of thin air. It must be remembered that the theory must fit the data, NOT that the observations (if confirmed) must be wrong since they don't fit the theory.

2. Reproducibility

Once properly collected, raw data cannot be altered or discredited. That is to say, given the parameters that were set in the controlled experimental conditions, and knowing all the

variables (both controlled and uncontrolled) present, then such raw data will always be reproducible.

If the experiments can be repeated over and over again, not by one but by many different and independent individuals or groups of individuals, and the resultant data agrees, then the probability of observer bias and observer error becomes negligible.

Thus, reproducibility must be fundamental to the design of all scientific procedures, whether at the stage of initial observation, or later, when testing the predictions of a theory, and scientists are careful to list all materials and methods in their literature so that their experimental procedures may be repeated by others to yield similar results.

3. Predictability

Using raw data which has been confirmed, we begin to form ideas as to what such data means (given the circumstances of the experiment or observation). These ideas are essentially an attempt at generalising the collected data, and is the method of induction or inductive logic. As the observations develop, the ideas (postulates, hypotheses, theories) also evolve to better fit all the data collected.

Induction therefore, in science, is the process of drawing generalisations (hypotheses) from a number of particular observations.

We may now apply our hypothesis to extrapolate these results and make predictions as to the outcome of a particular event. This process of making predictions is the deductive process in science (deductive logic). Various observers may propose various predictions based on their own interpretations, this is quite all right, since it does not change the initial raw data.

So far we have seen that we can use raw (uninterpreted) data to make predictions. In other words, we can use what events we have observed to predict the outcome of events we have not yet observed. This is another fundamental aspect of the practice of science.

4. Testability

It is no use making predictions based on observation if there is no way to test (in order to verify or refute) such predictions. This is a most important concept in the formation of scientific hypotheses.

All good science can only progress by the constant formation and reformation of testable hypotheses which more and more closely fit the observations. These hypotheses must then be modified, accepted or rejected, based upon the outcome of prediction testing. The more rigorous and objective the testing, then the more verified and accepted becomes the theory.

Thus, a good scientist always applies the theory (formulated or induced from the raw data) to predict the outcome of future

* Reproduced from: *Some Essays on Homœopathy*, 1989, B.Jain Publishers, New Delhi

observations, being ever so careful to objectively record the minutest detail; and if the results fit the initial theoretical predictions, then he has verified his theory; but if the results are contrary to the predictions, and there is no flaw in experimental design or procedure, then he has grounds for refutation.

In fact, this is so important, that science cannot be performed without testing. If a idea is not testable, then it is relegated to mere opinion, since it can neither be verified nor falsified.

Now, another point whilst we are on this subject. The whole framework of modern science is geared towards attempting to falsify any proposed hypothesis or theory. It works like this; if a theory has been generated, then the experimenter designs a test to try and disprove or falsify that theory. Thus, the mind of the experimenter is critical at the outset, and the testing procedures more rigorous than would be the case if the experimenter set out to prove his theory.

This in fact, is the essential difference between modern science and the so-called science of old - that we set out to disprove, rather than to prove our own generated theories. The less falsifiable the theory, the more it fits the results of prediction data, and the more accepted it thus becomes. Hence, the falsifiability of a theory is a test of its ability to fit the facts of experience.

Homœopathy and Science

Keeping the basic conditions of true science in mind, let us now consider how Homœopathy fares in meeting these logical criteria, and if indeed it is consistent with the conditions of a true science.

Please note that when I refer to Homœopathy, I refer to that system of medicine which applies the observation of Similia to practice, and which has more recently been termed "Classical Homœopathy" in order to distinguish it from the unscientific, pseudo-homœopathic practices of the so-called more modern homœopaths who give mixtures of medicines in much the same way as the allopathic school, except that they use medicines prepared according to homœopathic pharmaceutical methods. Such practices, by definition, are not homœopathic.

Origins

From its inception, Homœopathy was formed on pure observation. The experiments which led Hahnemann to develop Homœopathy were based on the predictions he made following his discovery that the symptoms of poisoning with *Cinchona officinalis* resembled the disease condition for which it was successfully employed therapeutically. This observation, together with Hahnemann's acquaintance with earlier literature from authors such as Hippocrates, Paracelsus, Bertholon, Thoury, Stoerk, and Stahl, (see *Organon*, 6th ed., introduction) who had already hinted at the Similia concept, and a further six years of conducting provings and testing his predictions led Hahnemann to propose a rational approach to therapeutics based on this newly discovered and systematised LAW OF SIMILARS. Note that the Law was moulded as a consequence of inductive reasoning following many years of observation experimentation.

Materia Medica

The homœopathic *Materia Medica* is unique in that it is an accurate record of observable phenomena produced on human subjects, either by volunteers or by poisonings (accidental or otherwise).

The original records of provings contain a mass of carefully collected raw data which can never be changed nor discredited, and which have been verified and re-verified in numerous re-provings on different individuals and by different observers. Thus our *Materia Medica* is derived from reproducible observations.

Here I refer to our *Materia Medica sources*,¹ without interpretation, or as Hahnemann called it, *Materia Medica Pura*, to denote it contained lists of purely observed symptoms with no interpretation. These works form the collected raw observational data of our homœopathic science. By simple extrapolation of this raw data, predictions can be made based on the law of Similars (deduction), as to the types of disease conditions in which each drug may be of service.

The Law of Cure - Scientific Medicine and Homœopathy

Now let us look at the fundamental Law of rational medicine which has been derived from careful observations over 200 years of medical practice. The platform upon which Homœopathy stands, is the observation that a medicine is capable of removing symptoms similar to those which it produces - *Like cures Like* or *Similia Similibus Curantur*. This is the definition of Homœopathy (from the Greek: *Omoio* [Homœo] = similar; *Pathos* = suffering), and is the basic tenet upon which everything else must revolve, if it is to be called Homœopathy.

Thus, the observation of Similia, which lead Hahnemann to postulate on a general Law of Similia in medical therapy, is, in fact Homœopathy itself. Everything else is secondary. It is therefore appropriate to begin this portion by looking at Similia.

1 Similia

We can see that the Law of Similars was developed initially from empirical evidence thence from carefully collected raw data, and it is used to predict the application of a specific medicine in a particular case by matching the symptoms of the diseased individual with those producible by the medicine.

Therefore this fundamental Law of Homœopathy was derived through observation, is useful in making predictions as to the therapeutic applications for each and every proved medicine, and has been verified by testing these predictions in a clinical situation. It is clear that this basic tenet of Homœopathy is strictly in accord with proper science.

Homœopathy revolves around the Law of Similia which asserts that medicines will remove symptoms in disease,

¹ By 'sources' I refer to *primary* sources wherein we find listed the results of provings, amongst which must be counted the following works:

Books:

Hahnemann: *Materia Medica Pura* (MMP); *Chronic Diseases* (CD)
Hartlaub & Trinks: *Reine Arzneimittellehre* (HTRA)

Journals:

Allgemeine Homöopathische Zeitung (AHZ)
Archiv für die homöopathische Heilkunst (AHH)
Practische Mittheilungen der homöopathischen Gesellschaft (PMG)
Annalen der homöopathischen Klinik (AHK)

similar to which they are capable of producing in health. This is the challenge.

As a neophyte to practice, the scientific homœopath, every day in clinic, takes on this challenge and applies medicines on the basis of Similia, seeking to falsify these assertions of Homœopathy - to disprove the theory which states that any symptom producible by a medicine is also removable by that medicine. This is a natural and healthy skepticism which should be encouraged in any science, and which, in my own experience, grows weaker and weaker as it is replaced by an increasingly strong conviction that the Law of Similia is observable, repeatable, testable, and verifiable.

Finally, this conviction becomes so strong, that the homœopath comes to the realisation, as in any science, that if a particular prescription fails in any one case, it is more probable that they have failed, rather than Homœopathy having failed. As it is well said, "a good tradesman never blames his tools."

Stay away from those professing to be homœopaths, and yet who, at the slightest hint of things not going as well, resort to anti-biotics, anti-psychotics, anti-depressants, steroids, NSAID's, *i.e.*, they resort to prescribing medicines on any basis other than homœopathic etc., saying to their patients:

"We have tried, but it is no use, Homœopathy can't help you, you need something stronger".

Indeed there is nothing stronger than the specific medicine - the medicine specific for that patient in disease - the accurately chosen homœopathic medicine. It is much more likely that the practitioner has failed, than that the whole system of medical therapeutics called Homœopathy has failed.

Such practitioners lack any real conviction in this therapy they profess to represent, and over which they think they have a proficient grasp, obviously through a lack of their own clinical experience.

2 Simplex (Single Remedy)

Now it should be clear that in order to practice Homœopathy, one must apply the Law of Similia. The Law of Similia predicts that a medicine will remove symptoms similar to those which it is capable of producing (this capability having been determined by poisonings - accidental or otherwise, or in controlled experiments on humans, called provings).

To test the Law of Similia, in order to falsify or verify it, one must apply the medicines so "proved" in the manner they were proven. Thus, if a medicine is proven as a single unit, regardless of the number of ingredients it contains, then it must be applied as a single unit. Hence, this directive of Homœopathy, to use a single medicine, is only in keeping with the application of the Law of Similia.

The idea of NOT mixing medicinal substances in the assumption that the effects will be simply additive is so simple and so obvious, and yet it escapes the minds of, or is at least ignored, by many individuals. Here it is usually not the scientists, but the health care professionals who are at fault. Now, let us consider the mixing of drugs. It is certainly an *erroneous assumption* to suggest that if:

Drug A has an **action C**, and

Drug B has an **action D**, then it follows that

Drugs A + B = Actions C + D

That is, we are assuming that the combined actions are simply additive, and this is as incorrect as saying that since I can remove one eye and still see, then the other eye must have been useless.

We know for example, that the incidence of lung cancer in asbestos workers is 5-10 times that of the average person, and that the incidence in cigarette smokers is around 10 times the average. However, asbestos workers who smoke show a 50 fold increase in incidence. This clearly shows that these two agents work synergistically, with their combined effects being greater than simply the sum of their individual actions. Similarly, a biological organism is more than the simple sum of its component parts, and you can only treat it as a whole, single unit; just as you should treat a medicine as a whole single unit, and not just a simple sum of its component parts.

If you prescribe more than one therapeutic agent (medicinal or otherwise) at one time (or in close proximity), then one of three possibilities may result:

1. *The patient remains the same*, and now you do not know if it's because you didn't include the right substance in the prescription, or that one of the agents had an opposing or inhibitory effect on the real therapeutic agent, or that combined, the whole medicinal preparation had a different specific effect to the one desired.
2. *The patient becomes worse*, where now you cannot ascertain if the wrong substance was included in the mix, and if so, which one is responsible; if the interaction of the medicines caused the aggravation; or if the drug strength was too high and therefore responsible for the aggravation.
3. *The patient improves*, in which case you don't know which substance was the most effective for that condition in that patient, and you therefore remain less informed as to the precise action of specific individual drugs.

In all of the above, there are too many variables, and we cannot learn in a precise, systematic fashion, since we are introducing far too many assumptions; after all, science is a systematised body of knowledge. In science, if two hypotheses explain a set of experimental data equally well, then the simpler of the two will be preferred. This is because we endeavour to make as few assumptions as possible, and to reduce the number of variables which may affect our results. Remember, the lower the number of assumptions, then the lower is the possibility of error (and the lower the falsifiability of the statement or theory).

The logic of using only single remedies and thereby eliminating unwanted uncontrolled variables is not unique to Homœopathy, but a necessary part of the application of any rational therapy.

It should by now be clear that it is inconsistent with logic and science for any physician to mix medicines based on a simple addition of indications derived from provings of those individual medicines, and one who practices in this fashion can neither call himself a scientist nor a homœopath. More can be written on this topic, especially by way of example, but this will suffice here given the scope of this essay.

3 Minima (Minimum Dose)

It is obvious that only pure, unbiased observation of the undesirable effects of large doses could have led Hahnemann to reduce the dosage, since no one would start reducing doses in medicinal therapeutics without a reason, especially in

Hahnemann's time. He discovered the process of medicinal preparation known as "potentisation" out of this unbiased searching. Is this not then true science? Having no preconceptions as to the outcome of his experiments, Hahnemann used both inductive and deductive reasoning in his acceptance of what is now termed the Law of the Minimum Dose, and of the value of potentisation, a process of drug preparation unique to Homœopathy.

Simply put however, the Law of the minimum dose directs us to use *the smallest amount necessary to effect the desired result*.

But this logic is not unique to Homœopathy. It is seen as a basic principle in engineering, economics, even in strategic planning for war times! After all, who wants to use more than is necessary to effect the desired result?

There has been some confusion even amongst homœopaths that Homœopathic medicines are potentised medicines. This is not true. What determines the *homœopathicity* of a medicine is its application. Only if a medicine is applied according to the Law of Similia can it be, by definition, homœopathic. You must remember that Hahnemann coined the term Homœopathy long before he developed and used succussion (potentisation) to prepare his medicines. A person prescribing a medicine labelled "homœopathic" on indications other than Similia, is neither practising Homœopathy, nor is that medicine homœopathic to the case.

Having said this, it is however true, that the process of potentisation is peculiar to Homœopathic pharmacy, and most homœopaths now use medicines so prepared almost exclusively in practice. But it is important here to stress, that using a medicine which is labelled "homœopathic" does not necessarily mean you are using Homœopathy.

Now let me proceed on the question of minimum dose. Out of all the assertions made by homœopaths, it is this one on the action of the infinitesimal doses which is utterly rejected by so-called men of science as being impossible. They point out that in a solution where the solute reaches dilutions beyond *Avagadro's number* (6.023×10^{23} ; 12C, 24X, 0/4 potencies and above), that the probability of finding even one molecule of the initial substance goes from extremely small, to almost non-existent. Certainly, at such dilutions, the initial drug molecules are chemically non recoverable.

Is this not a prime example where so-called scientists are led by their hypothesis, and without proper investigation and inquisition readily ignore or dismiss as anecdotal or uncontrolled, the overwhelming evidence demonstrating a definite biological action with homœopathic medicines beyond a 12C potency dilution factor? Whilst it is essential that a good scientist remains critical, it is inexcusable that he should choose ignorance and conformity with theory, above observation.

Recent investigators² are now examining the effects of potentisation (dilution + succussion) on the diluting medium, and have shown that various physical parameters of the diluent have been affected by the process of dilution and succussion, but not by dilution alone, and that these affects can be measured at dilutions beyond the limits of Avagadro's

number. From these observations, we begin to think that at these potencies, it is not the presence of drug molecules which are effective, but rather that the diluent has been physically and specifically altered during the preparation with the drug substance, and **IT** is now the therapeutic agent. Even more recently, professor

Benveniste³ has demonstrated the ability of ultra-diluted (beyond Avagadro's limit) antibody solution to evoke an in-vitro basophil degranulation response, and suggested that this antibody solution, when prepared by a process of serial dilution & succussion, retained a physical template (a skeleton) of the original drug molecule, perhaps within the hydrogen bonding network of the water molecules, or through electric or magnetic fields. This suggest that the medicinal effects at this level of dilution are physical and not simply chemical. Notice that, as in all true science, these postulates have come out of observation, deduction, and prediction, and not out of prejudice and ignorance.

The scientific literature has seen a recent surge of examples of biological activity, not only in-vitro, but also in-vivo, and on human subjects, using 'homœopathic' doses of substances. Thus, if one looks, they will indeed find carefully controlled experiments to support not only the activity, but also the effectiveness of ultra-dilutions in overcoming disease.

Conclusion

It is clear from the foregoing pages, that Homœopathy is a science, by every meaning of the word. We do not know WHY a substance capable of producing certain symptoms will also remove a similar set of symptoms (Similia), just as we don't know WHY two bodies will exert a force of attraction towards each other in proportion to their mass (Gravity). Nevertheless, just as we use the Law of Gravitational attraction to predict the trajectory of a projectile, so can we use the Law of Similia to predict the action of a therapeutic agent on a sick individual. It is important to remember that we must not dismiss something as impossible simply because we do not understand WHY it works.

Finally, on the necessity of keeping an open mind, free from bias, and as Hahnemann⁴ has said clear of:

"transcendental speculation which can receive no confirmation from experience"

I would like to finish with a quotation from an old master of our homœopathic science whose influence on the development of Homœopathy in America is undeniable, Constantine Hering⁵:

"It has been my rule through life never to accept anything as true, unless it came as near mathematical proof as possible in its domain of science; and, on the other hand, never to reject anything as false, unless there was stronger proof of its falsity."

² Jussal, R.L., Meera, S., Dua, R.D., and Mishra, R.K.(1982): Physical effects on the suspending medium by compounds in asymptotically infinite dilutions, *Hahnemannian Gleanings*, 49(3):114-20

³ Benveniste, J., et.al. (1988): Human basophil degranulation triggered by very dilute antiserum against IgE, *Nature*, 30 June, 333(6176):816-818

⁴ Hahnemann, S.: *Organon of Medicine*, 6th edition, English translation, William Boericke, Boston, 1921. Indian edition, B.Jain, New Delhi.

⁵ Hering, C.: *The Guiding Symptoms of our Materia Medica*, 1989 Indian reprint, B.Jain, New Delhi, Preface.